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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,343	03/19/2004	Shinji Yamamoto	CFA00068US	7010
7590	07/12/2006		EXAMINER AGUIRRECHEA, JAYDI A	
Canon U.S.A. Inc. Intellectual Property Department 15975 Alton Parkway Irvine, CA 92618-3731			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/804,343

Applicant(s)

YAMAMOTO ET AL.

Examiner

Jaydi A. Aguirrechea

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/28/06 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 10-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiv et al. (WO-00/25369 same as US 6661153).

Shiv discloses a vibration-type driving device comprising a piezoelectric vibration element (20) including an elastic body and an electromechanical conversion element (40) having at least two electrodes (they disclose at least one electrode on each face of the piezoelectric vibrator) capable of causing the electric body to excite vibrations with two driving voltages of respective phases having the same frequency applied to the two electrodes. Shiv discloses longitudinal and transverse vibrations modes that generate elliptical vibratory motion in the nub  
32. (See Column 5, lines 10-14)

Shiv is silent regarding the driving voltages and phase difference between them.

However, it is inherent in the invention that two driving voltages with the same phase will form a first flexural vibration mode and two driving voltages with opposite phases will form a second flexural vibration mode, since the output is an elliptical movement of the nub.

Regarding the limitation of the first and second flexural modes being simultaneously formed to generate combined vibration, it should be noted that at some point the first and second flexural modes have to be simultaneously generated in order to generate the desired vibration used to drive the driven element. Therefore, the limitation is considered to be inherent in the disclosure of Shiv.

With regards to claim 11, Shiv is silent regarding the polarization of the electro-mechanical energy conversion element. However, in order to produce the bending effect on the piezoelectric, the direction of the polarization on both sides must be equal. Therefore, this limitation is inherent in the invention.

With regards to claim 12, Shiv discloses a rectangular elastic body.

With regards to claims 12 and 13, these limitations are not structural limitations and therefore given little patentable weight.

With regards to claims 14-17, Shiv discloses the structural limitations of the invention and an arithmetic control circuit as shown in figure 2. Regarding the limitation of the first and second flexural modes being simultaneously formed to generate combined vibration, it should be noted that at some point the first and second flexural modes have to be simultaneously generated in order to generate the desired vibration used to drive the driven element. Therefore, the limitation is considered to be inherent in the disclosure of Shiv.

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With regards to claims 15-16 and 18-19, Shiv discloses changing the phase difference between the electrodes in order to output a vibration on the nub. Regarding the limitation of the first and second flexural modes being simultaneously formed to generate combined vibration, it should be noted that at some point the first and second flexural modes have to be simultaneously generated in order to generate the desired vibration used to drive the driven element. Therefore, the limitation is considered to be inherent in the disclosure of Shiv.

With regards to new claims 20-22, Shiv anticipates the invention as disclosed above including the limitation of the combination of the first and second vibration modes to drive the driven element and the arithmetic circuit. Shiv also discloses the vibrations can be clockwise or counterclockwise. Regarding the limitation of the first and second flexural modes being simultaneously formed to generate combined vibration, it should be noted that at some point the first and second flexural modes have to be simultaneously generated in order to generate the desired vibration used to drive the driven element. Therefore, the limitation is considered to be inherent in the disclosure of Shiv.

#### ***Response to Arguments***

4. Applicant's arguments with respect to claims 10-22 have been considered. As explained above in the rejection of the independent claims, it should be noted that at some point the first and second flexural modes have to be simultaneously generated in order to generate the desired vibration used to drive the driven element. Therefore, the limitation is considered to be inherent in the disclosure of Shiv.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaydi A. Aguirrechea whose telephone number is 571-272-2018. The examiner can normally be reached on M-Th 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
JAA  
7/7/06

  
Jaydi Aguirrechea  
Patent Examiner